DOCUMENT RESUME

ED 296 006 TM 011 926

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TITLE Development of Theories of School-Effectiveness.
PUB DATE Apr 88
NOTE 27p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 5-9, 1988).
PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070) -- Viewpoints (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational Research; Educational Theories; Foreign Countries; Hypothesis Testing; *Organizational Theories; Research Utilization; *School Effectiveness
IDENTIFIERS Netherlands

ABSTRACT

Concepts from organizational theory are used to interpret and review major findings of school effectiveness research to develop a broader perspective for understanding school effectiveness. Results of school-effectiveness research in the Netherlands are compared with those from research in the United States and England. A more-or-less established model of school effectiveness consists of five factors: (1) strong educational leadership; (2) high expectations of student achievement; (3) academic goal consensus; (4) emphasis on basic skills; and (5) safe and orderly climate. The contingency perspective is used as a first step in enlarging the scope of school effectiveness research. The five-factor model is then compared with conceptualizations of organizational effectiveness. A meta-framework is presented. The definition and application of some concepts from organizational theory will aid in testing organizational hypotheses. Substantive hypotheses are summarized in table form. (SLD)

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Development of theories of school-effectiveness

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Paper presented at the Annual Meeting of the American Educational Research Association
New Orleans, April, 1988

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DEVELOPMENT OF THEORIES OF SCHOOL-EFFECTIVENESS

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Introduction

School-effectiveness research has its roots in sociological input-output studies and economic specifications of educational production functions. More recently, it has developed as a special type of evaluation research. Within the divisional structure of the American Educational Research Association, the Special Interest Group on effective schools belongs to the evaluation division and not to the educational administration division. In the Netherlands too, school-effectiveness researchers operate outside the professional network of researchers of educational administration. We feel that the institutional separation of school-effectiveness research and the field of educational administration reflects, to a certain extent insufficient integration of conceptualizations and research perspectives (although there are examples of studies in which integration has indeed taken place (see Firestone & Wilson, 1987; Hoy & Ferguson, 1985). Moreover, it is our contention that this separation is unfruitful for both fields: organizational theory might help in filling the often mentioned "theoretical gap" in the interpretation of school-effectiveness findings, and, equally, it is hard to imagine how organizational conceptualization over schools would not benefit from empirical studies on a concept as important as effectiveness. The aim of this paper is to use concepts from organizational theory to interpret and critically review major findings of school-effectiveness research and to offer a broader conceptual perspective in delineating and understanding school-effectiveness.

Since there are already a great many reviews of school effectiveness research (e.g. Purkey & Smith, 1983; Ralph & Fennessey, 1983; Rutter, 1983; Bossert, 1988; Pitner, 1988), we shall make no attempt to make a review of reviews. Indeed, we assume that we can take the often cited 5 effectiveness-indicators (strong educational leadership, high expectations of student achievement, academic goal consensus, emphasizing basic skills, safe and orderly climate and frequent evaluation) as the more or less established model of school-effectiveness, although we are well aware of the cautionary notes in the reviews referred to above.

First, we analyze the "five factor model" from the angle of conceptual critique. Next we use the contingency perspective as a first step in enlarging the scope of school-effectiveness

conceptualization and research. We use results of school-effectiveness research in the Netherlands, in comparison with Anglo-Saxon research results, to illustrate some of our points. In a third section we compare the "5-factor model" of school-effectiveness with various conceptualizations of organizational effectiveness. Our synthesis of these different ways of examining school-effectiveness is a multiple context-criterion and multi-level perspective; an overall or "meta"-framework, from which we deduce critical points at which substantive theoretical explanation is most needed. We also offer some substantive theories that seem promising for fulfilling these needs and draw some implications for future school-effectiveness research.

Conceptual critique of the "5-factor" model

The causal status of the "5-factor" model is correlational. This means that although the 5-factors are usually seen as "causes" of student achievement, in a strict methodological sense no such strong statements concerning causal ordering are warranted. We shall not here go into further methodological criticism of the research basis on which the 5-factor model rests: for this we refer to the reviews cited earlier, in particular Ralph & Fennessey, 1983. But, given the correlational status of the model, some questions about the model must be raised, also at the conceptual level.

First of all, the question whether the factors are causes rather than effects of high achievement is particularly hard to ignore for the "high expectation of student outcomes"-factor. It is quite plausible that feedback from satisficing student results at an earlier stage leads to high expectations for the future. Perhaps the expectations-achievement correlation can best be seen as a genuine reciprocal relationship (which is of course very hard to demonstrate using causal analysis).

Secondly, there is a hint of tautology in emphasizing basic skills (as a determinant) and exclusively measuring basic skills as the dependent variable. If we were to measure outcomes in the affective domain, instead of achievement, goal consensus on basic skills would be a less likely cause of the measured dependent variable. The basic factor here seems to be goal-measurement disparity. This variable, we believe, had better be used as a control- or covariate, rather than as a causal factor that distinguishes effective from non-effective schools.

In the third place, the question should be raised whether the five factors are really independent factors. This question could be answered by examining the correlations between the factors. But even at face value, we might wonder whether "frequent evaluation" and "orderly climate"

could not better be seen as aspects of strong instructional leadership, than as independent causes. A fourth question, which is somewhat related to the former, concerns the locus of the factors. Sometimes they are seen as all being aspects of school leadership (e.g. Sweeney, 1982), whereas in other cases they are seen as aspects of school climate. Not all the factors are exclusively defined at the school-level; progress-monitoring and evaluation should perhaps even be primarily taken as a variable at the teacher or classroom level.

What remains of the five-factor model, after considering these critical conceptual questions, is firstly a general idea of what is and what is not essential and secondly, a feeling that we need better-refined effectiveness models.

We believe that elements like a high achievement orientation, shared by teachers and management, and both structural and cultural conditions for closely monitored learning, are the core elements of the effective-schools model and that the methodological critique concerning the disparty (or closeness) of educational objectives and effectiveness measures points at a third condition: access to knowledge or "opportunity to learn".

More refined models of school-effectiveness have been developed by e.g. Glasman & Biniaminov, 1981; Murphy et al., 1982; Clauset & Caynor, 1982; Squires, Huitt & Segars, 1983; Schmuck, 1980; Blom, Brandsma & Stoel, 1985; Ellett & Walberg, 1979; Duckworth, 1983. Usually, these models contain at least two levels at which effectiveness indicators are defined, namely the school- and the classroom level.

Next, they take background characteristics of pupils (aptitudes, socio-economic status) into account as control variables (individual student level). Some of these models contain a third "context" level at which effectiveness indicators are defined (Schmuck, 1980; Blom, Brandsma & Stoel, 1985). Finally, it is worth noting that several models are non-recursive (i.e. contain reciprocal relationships). By way of illustration Schmuck's model is depicted in figure 1.

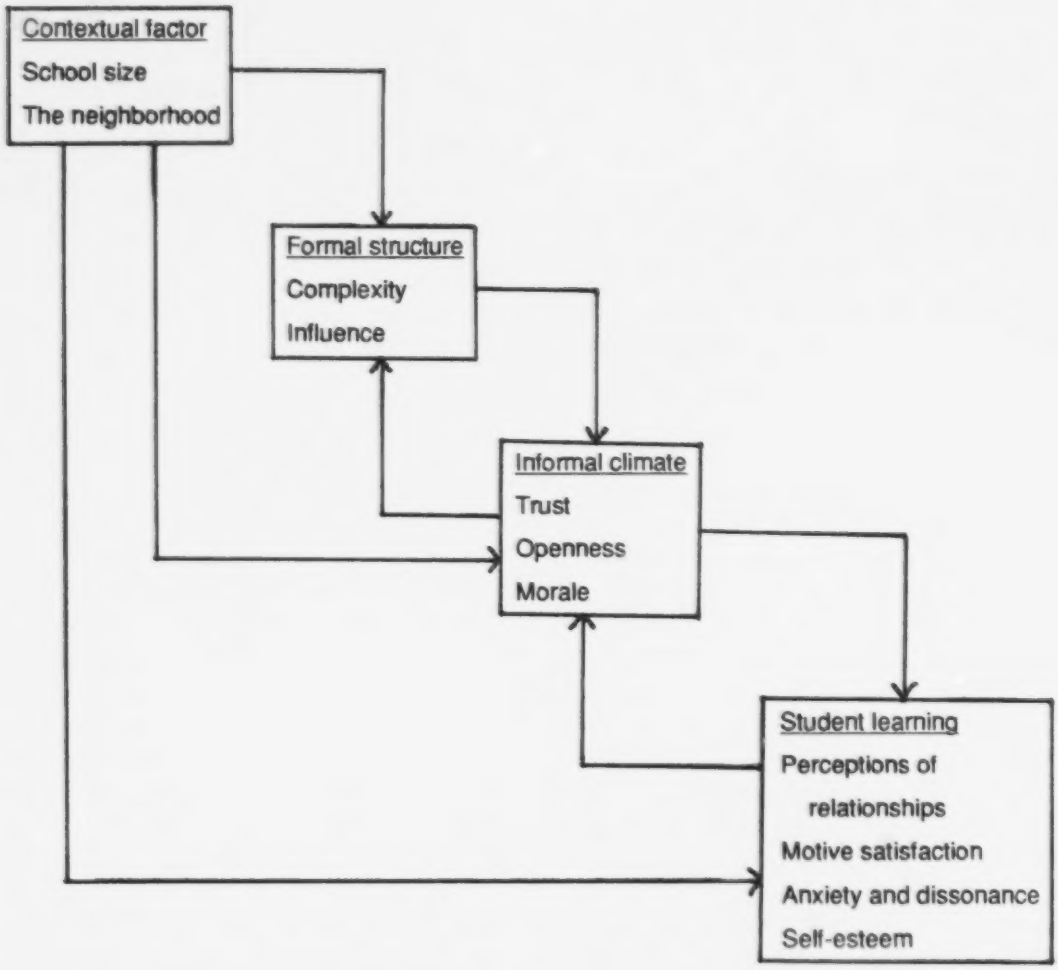

Figure 1: Schoolorganization and student learning: causal relations among four classes of keyvariables, Schmuck, 1980, p. 186.

These models are useful as conceptual models, more specifically as a starting point for the identification of critical points where further theoretical explanation would be needed. However, they appear somewhere between the devil and the deep blue sea as far as theoretical coverage and operational usefulness are concerned. For most theorists of organizational effectiveness they will probably be too simplistic, while at the same time they are too complex to be handled even by more sophisticated types of statistical multi-level analysis.

Since our aim is theory formation we take the liberty of abstracting from these methodological problems, and explore further complexities of school-effectiveness and its correlates.

Contingency perspective

The research basis of the 5-factor model of school-effectiveness consists largely of studies of urban primary schools with a low SES-student population conducted in the United States and England.

The claims of the "effective schools movement" that imply a more general applicability of the five-factor model seem rather strong, given this relatively narrow empirical basis. The idea of a universally valid set of effectiveness indicators is at odds with a perspective in organizational theory, known as contingency theory, or "the situational approach" (Kieser & Kubicek, 1977; Thompson, 1967; Mintzberg, 1979). Contingency theory can be seen as a reaction against earlier organizational theories that emphasized particular ideal-type organizations, e.g. based on the ideas of scientific management or the human relations approach.

The basic idea of contingency theory is the dependency of the effectiveness of organization structures on situational or contextual conditions, such as the complexity of the environment, the nature of the core technology and factors like age and size of the organization. Organizational structures should "fit" these contextual conditions. It should be noted that the contingency-perspective does not make the life of researchers of organizational phenomena any easier. For one thing, contingency-factors are not seen as independent external causes, but as conditions that can be partly controlled by the organization. Thus, reciprocal relationships appear when we think of empirically verifying hypotheses of organizational functioning. Yet another complicating aspect of contextual determinancy is the possibility that different contingency factors "pull" the organization in different directions. Moreover, contingency hypotheses require very complicated research designs, because empirical verification of the fit of contextual and structural variables are only one step, after which it still remains to be shown whether a "fitting arrangement" does indeed lead to effectiveness (see Kickert, 1979).

The generalizibility vs. the situational dependency of the five factor model of school-effectiveness is an important item for future research in this area. Several authors report findings that support the contingency of effectiveness indicators on factors like primary vs. secondary schools (Firestone & Herriott, 1982), high vs. low SES student body composition (Teddlie et al., 1987) and vocational vs. general secondary education (Stoel, 1986). As a

further illustration of contextual determinancy of school-effectiveness indicators we would like to point at a specific type of contextual dimension of schools, namely the surrounding national educational systems. In table 1 we present a general overview of school-effectiveness research in the Netherlands.

indicator / author	general measure of school-climate	educational leadership	orderly climate	basic skills	high expectations	frequent evaluation	private public	direct instruction	achievement orientation
Meijnen, 1985								+	
Marwijk-Kooy, 1984 ⊙	+	-							
Hoeven van Doornum, Jungbluth, 1987	-						+		
Stoel, 1986 ⊙		-	+			+			
Bosker, Hofman, 1987								-	+
Brandsma, Stoel, 1987 ⊙		+				+			
Vermeulen, 1987		-	+	-	-	-			
Tesser, 1985 ⊙	-								
Van der Wolf, 1985								+	

⊙ secondary schools; unmarked: primary schools; + means significant positive relationship with effectiveness indicator;
- means no significant positive relationship with effectiveness indicator.

Table 1: Overview of Dutch effectiveness studies

Table 1 shows that school-effectiveness research in the Netherlands is still in its infancy: there are relatively few studies, all conducted during the last three to four years. The dependent variables that were used in these studies were either achievement test data, examination results, educational attainment measures or, in two cases, affective measures like pupils' attitude towards school. The independent variables were mostly measured by means of questionnaires and interviews. Simple correlations, regression analysis and ANOVA were the analyses most frequently used.

The general picture of this overview does not offer much support for the 5-factor model of school-effectiveness, although individual studies show positive results of individual factors like strong leadership, orderly climate and frequent evaluation.

When we compare the study by Vermeulen, 1987, which was a close replication of an American study, we see large differences in the size of indicator criterion correlations (Schweitzer, 1984 vs. Vermeulen, 1987; see table 2). Unfortunately, at this stage it cannot be concluded unequivocally whether or not these findings do indeed falsify the 5-factor model of school-effectiveness within the context of the Dutch educational system.

Relationship between characteristics of schools and educational attainment (reported by teachers).

	Schweitzer (USA)	Vermeulen (NL)
Strong instruction leadership	.58	.05
Academic goal consensus	.79	.12
Safe and orderly climate	.59	.34
High expectations for student achievement	.79	.21
Frequent evaluations of pupil progress	.68	.23

Table 2: Comparison of Schweitzer's results with a Dutch reprlication

It could be argued that the studies are too few and too disverified to provide more definite conclusions. Moreover, individual studies have been criticized for lack of reliability of the measurement of the independent variables and for not using the proper techniques of analysis (e.g. Creemers, 1987). Yet, such findings provoke questions about the contextual mechanisms (i.e. characteristics of the Dutch educational system) that could explain these findings.
Two tentative explanations are that a) Dutch schools have no tradition of educational testing and school-based evaluation, and accordingly this variable would explain little variance, and b) achievement orientation does not generally rank high in the teaching philosophy of Dutch schools.
We believe that studies of the contextual boundedness of school-effectiveness indicators, including comparisons of national educational contexts, have yielded sufficiently provoking findings, to warrant the adoption of a contingency-perspective to future school-effectiveness research. This means that a contextual level needs to be added to the already multi-level character of prototypical causal models of school-effectiveness.

Organizational effectiveness criteria and the 5-factor model

Cameron and Whetten (1983, p. 269) offer seven decision guides to assess definitions of organizational effectiveness. Application of these guidelines to the "5-factor-model" of school-effectiveness yields a characterization of this model which makes comparison with other models of organizational effectives easier. The seven questions are as follows:
1. "From whose perspective is effectiveness being judged?"
According to Ralph & Fennessey's (1983) critical analysis of effective school movement the answer to this question would clearly be: the perspective of educational reformers and school-improvement specialists. It should be noted that this category could consist of either or both school-leaders, educational specialists (known as facilitators) or educational administrators at a level above the individual school. Moreover, Cameron and Whetten's first decision guide forces the issue of organizational effectiveness immediately into a context of practical application. Their implicit assumption is that questions of organizational effectiveness are "stake-holder based" evaluations. It could be argued, however, that school-effectiveness is also being approached as a research question, inspired not only by practical interests but also by the aspiration to know how schools work, and what factors determine their core outcomes.

2. "On what domain of activity is the judgment focused?"

"Domains of activity" are described in terms of "constituencies being served, the technologies employed, and the services or outputs produced". The five factor model of school-effectiveness must be seen as emphasizing the production of cognitive (and perhaps less frequently also affective) educational outcomes. It is, futhermore, a process-product, or a determinant-indicator approach, where outcomes are correlated to factors that are thought to determine these outcomes (cf. Goodman, Aitkin & Schoorman, 1983).

The determinants or factors of the "five-factor" model are generally thought of as organizational measures at the school level that facilitate the primary production process of the school. Yet, as has been noted in earlier sections, some of the factors can also be seen as aggregates of characteristics of the instructional process at the level of organizational sub-units.

3. "What level of analysis is being used?"

The five-factor model of school-effectiveness is defined at the organizational level. Since, however, the dependent variable (e.g. achievement) is measured at the individual level and usually pupil-SES is used as a major control variable, also defined at the individual level, it is preferable to define the 5-factor model as a multi-level model. The multi-level nature of school-effectiveness becomes even more marked when a classroom and/or a contextual level are added to the causal models (see the previous sections).

4. "What is the purpose for judging effectiveness?"

Traditionally, effective schools research has been closely geared to the ideals of compensatory education to disadvantaged pupils. Improvement purposes at the district or individual school level have been predominant. The recent call for excellence, educational quality and efficiency could very well change the context of application of school-effectiveness assessment from an improvement to an accountability context. But, as pointed out above, there is also a more theory-related purpose of school-effectiveness assessment.

5. "What time frame is being used?"

This fifth question of Cameron & Whetten isolates a difficult point of school-effectiveness research. Usually, cross-sectional research designs have been used to contrast effective and non-effective schools. This means that essentially only one point in time is used to assess effectiveness. According to Ralph and Fennessey, 1983, such a "one shot" approach provides insufficient evidence about the effectiveness of a particular school. Indeed, schools should only be called effective when they show superior performance for several years. Such a time frame would require longitudinal research designs. It is as yet a question that is undetermined by

empirical research whether effectiveness is a characteristic of schools that has a certain amount of stability. Koopman & De Jong (1987), for instance, found considerable instability in the effectiveness of Dutch secondary schools, which suggests that schools that appeared to be effective in one year, could not be judged so when assessed the next year.
Another aspect of the time dimension in effectiveness research is the point in time when the assessment takes place, with reference to the flow of the production process. So, for instance, school-effectiveness could be assessed half-way through a student's schooling, at the end, or several years after the students have left school. In current school-effectiveness research, effectiveness is usually assessed at the end of the period of schooling by looking at examination results.

6. "What type of data are being used for judgments of effectiveness?"

Here Cameron and Whetten refer to the distinction in subjective and objective data. School-effectiveness research usually employs objective data, though the measurement of the independent variables often depends on the subjective opinions of school personnel. Hoy and Ferguson, 1985, provide an interesting example of employing expert judgment in assessing school-effectiveness.

7. "What is the referent against which effectiveness is judged?"

Referents or standards against which organizational effectiveness can be judged can be comparative, absolute and - as a specific instance of the latter - goal-based. The five factor model of school-effectiveness is based on comparative research. Comparative standards could be contrasts between schools that are extreme in average achievement, comparisons with national assessment data, progress over time, or contrasts between schools that have participated in improvement programs, and control schools. An important issue, when using comparative standards, is the judgment of effect size. There are no definite answers to questions like: is a difference of 1/4 of a standard deviation between "experimental" and "control" group to be considered as a substantial effect, or, is 30% explained variance by the "five factors", when considering variance between schools, sufficient to maintain the five factor model?

To summarize, Cameron & Whetten's decision guides place the five factor model of school-effectiveness as a multi-level process-product model of educational achievement (or attainment), motivated in practice by both school improvement and accountability purposes, employing mainly objective data within a time frame that is short-term (end of production process) and cross-sectional (one shot assessment) and based on comparative judgments.

The most suitable question to differentiate the five factor model from other conceptions of organizational effectiveness, is Cameron & Whetten's second decision guide, which could be rephrased as to the primary criterion used in assessing effectiveness. The prominence of output criteria like achievement and/or educational attainment place the five factor model clearly in the domain of productivity concepts of organizational effectiveness. Economic rationality or the "rational goal model" is the theoretical background of this view of organizational effectiveness (cf. Faerman & Quinn, 1985).

Alternative models of organizational effectiveness use other effectiveness criteria. Table 3 summarizes four alternative models in addition to the productivity model.

The adaptability model emphasizes organizational survival and flexibility in responsiveness to the environment. Although requirement of vital resources (such as sufficient pupils to guarrantee the continuation of a school) is a very prominent aspect of this model, the deliverance of output that satisfy external stake-holders (such as clients) is theoretically just as central a characteristic of this model. This last characteristic, incidentally, is a clear basis for the integration of this model and the productivity model of organizational effectiveness.

effectiveness criteria	level of analysis	focus of interest	theoretical background
productivity	organization	output and its determinants	economic rationality
adaptability	organization	input requirement	open systems
commitment	individual members	motivation	human relations
continuity	organization/ individuals	formal structure	theory of bureaucracy
responsiveness to external constituents	subgroups within organization	dependencies, power	political theory

Table 3: Models of organizational effectiveness

According to Niskanen (1967), however, organizations within the public sector are more concerned with accumulating resources, than with the effective and efficient production of output.

The model emphasizing organizational commitment, is a model focused on the individual members of the organization. Cohesion and morale and human resource development are important aspects of this orientation towards organizational effectiveness (Faerman & Quinn, 1985). In contrast to the two models that were mentioned previously, this model is internally directed. Some of the five factors of school effectiveness could be seen to imply cohesiveness in (achievement oriented) values among the teaching staff. Mintzberg's (1979) characterization of the professional bureaucracy also stresses the importance of human resource development for organizations like schools.

Like the organizational commitment model the continuity model is internally directed. But here formalization is seen as the major vehicle to reach stability and control. A clear and ordered structure is seen as vital assett of organizations. Perhaps some theorists would be willing to defend the position that the orderly climate of effective schools requires such a clear and orderly structure, the ultimate realization of which would be the classical bureaucracy.

According to Pfeffer and Salancik (1979) organizations should be seen as political battle fields, where internal subgroups draw power from relationships with important external constituencies. Organizations are actively engaged with these external constituencies and are effective to the degree in which they come to terms with the most important ones. Responsiveness to external constituencies should perhaps be seen as a specific case of the adaptibility model of organizational effectiveness.

Cameron and Whetten (1983) defend the position that organizational effectiveness cannot be captured in one universal model. They say that all general theories of organizations have built into them implied criteria for measuring effectiveness (p. 262). Some of these criteria and their underlying organizational images have been referred to above. Were we to follow Cameron and Whetten, our conclusion about the 5-factor model of organizational effectiveness would be that this model only represents a partial view of the effectiveness of schools, and that a more comprehensive treatment of school-effectiveness would require independent additional criteria. Clearly, this point of view would considerably broaden the agenda of effective schools research.

Although we would welcome such a widening of research interests, we do not share Cameron & Whetten's point of view that effectiveness criteria should be seen as mutually independent. Indeed, we feel that the criteria mentioned in the above can be ordered according to a means-end distinction. This contention is based on the assumption that each organization has one (or several) primary output(s) to deliver (whether these are goods or services). In the case of schools, these primary outputs are the knowledge and skills pupils have acquired. Whether these vital outputs of the organization are defined as goals-to-be-attained or as environmental requirements that the organizational output should meet, is relatively unimportant.
In our view, educational goals should reflect external demands on the educational system as closely as possible. In other words, the goal concept we would like to use carries with it a responsiveness to external demands. So production of primary output should be taken as the ultimate criterion of organizational effectiveness. The other effectiveness criteria should be seen as supportive, or as means to this ultimate criterion. This position can be formulated consisely by following Georgopoulos and Tannenbaum's (1957) definition of organizational effectiveness: "the extent to which any organization or social system, given certain resources and means, fulfils its objectives without incapacitating its means and resources and without placing undue strain upon its members". The means-to-end relationship of effectiveness criteria is depicted in figure 2.

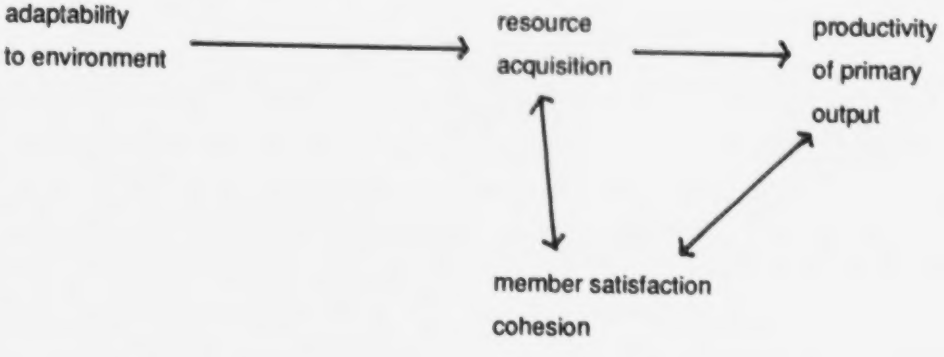

Figure 2: Means-to-end relationships of organizational effeciveness criteria

School-effectiveness research could benefit from the broader scope of conceptions of organizational effectiveness by using the "supportive criteria" as sources of inspiration to explain the mechanism by which the factors at the "independent" side of the productivity

equation affect primary output. For instance, goal consensus and cohesion among the teaching staff could be the basis for factors like "emphasis on basic skills" and achievement orientation. Likewise, a certain degree of formal structure (even in the professional bureaucracy) could be seen as a prerequisite for the orderly climate of effective schools.

Synthesis: Theory formation within the framework of a multiple context-criteria- and level perspective of school-effectiveness

So far, we have drawn a conceptual map of school-effectiveness. In the section in which we analyzed the five factor model of school-effectiveness from the angle of conceptual critique we concluded that the causal model of school achievement/attainment should be seen as a multi-level model, at least including a level of school organization and management, a teacher and/or classroom level and level of individual student performance and background.
Our conclusion from the section on contingency-theory was that school context ought to be taken into account more explicitly in future school-effectiveness research. Figure 3 depicts our analysis up to this stage.

From our review of alternative criteria of organizational effectiveness we concluded that productivity ought to be seen as the core criterion of organizational effectiveness, whereas criteria like adaptability to the environment, cohesion and continuity could better be seen as means or supportive conditions for productivity. These supportive criteria can thus be used as explanatory principles at the various levels of figure 3 and can be included in this model, instead of drawing up separate hypothetical models for each individual criterion.
We are aware that the conceptual mapping of school-effectiveness undertaken so far, does not answer the question why certain organizational characteristics correlate positively with achievement. The conceptual map, summarized in figure 3, does, however, provide a framework for indicating critical relationships that are in need of further explanation, e.g. by relating the already available empirical findings and new empirical hypotheses to more general principles or theories.

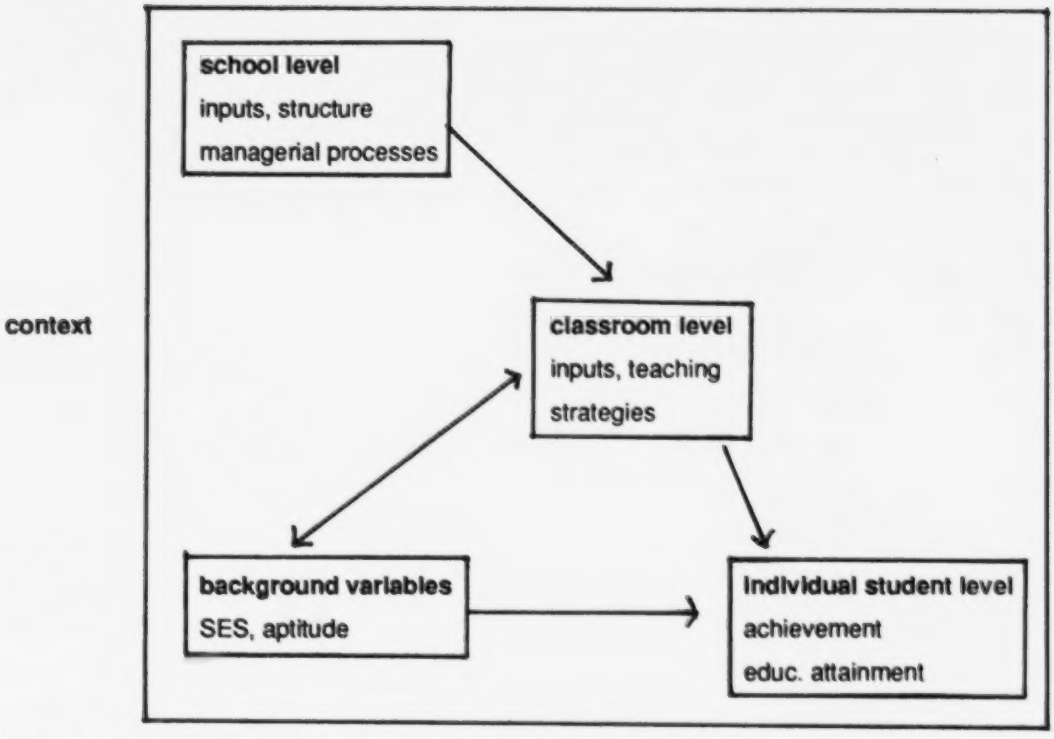

Figure 3: A contextual, multi-level model of school-effectiveness

We believe that the critical organizational relationships in the school-effectiveness model indicated in figure 3 are the relationships between levels, specifically between the organizational and the classroom level and between contextual conditions and organizational characteristics. (For a similar view see Bossert, 1988). The most straightforward way of thinking about these cross-level relationships is the idea that higher levels should provide facilitative conditions for the central processes at lower levels. This line of thinking calls for an inside-out analysis, which in this case means that our starting point for hypothesizing supportive conditions located at higher levels must be the principles of effective instruction at the classroom level. From research syntheses of instructional effectiveness and research on tracking (Walberg, 1984; Fraser et al., 1987) we conclude that important conditions of effective teaching are direct instruction (i.e. a conglomerate of factors like the use of reinforcement, highly-structured learning tasks, frequent monitoring of student progress), time-on-task (including homework assignments) and opportunity to learn (i.e. closeness of achievement measurement and content covered).

At the next level up, we should look for managerial, structural and cultural conditions conducive to effective instruction. An important managerial condition is the provision of evaluative facilities throughout the school, regulations for frequent assessment at student progress, tracking systems, computerized test-service systems, absenteeism registration, procedures for school-based review and teacher assessment.

We could summarize this managerial principle by referring to "the evaluative potential of the school organization" (Scheerens, 1987), which is firmly rooted in control theory, cybernetics, and rational management theory. We believe that, as far as schools are concerned, an evaluation-centered, or retro-active style of management has certain advantages over a pro-active, planning-centered approach (cf. Borich & Jemelka, 1982).

The concept of "goal coordination" from control theory must be seen as an important managerial factor in establishing cohesion between school members as far as the aims and major means of effective instruction are concerned.

At the cultural dimension of organizational functioning we might expect that a general orientation towards achievement, shared by school leaders and teaching personnel, would be supportive of effective teaching. Here we can refer to organizational theorizing about the mission of the organization (Mintzberg, 1979).

The organizational structuring of schools in a way that is supportive of effective teaching could best be seen as a kind of optimal mixture of organic and mechanistic characteristics. On the one hand a certain degree of formalization can be seen as a necessary prerequisite to bring about continuity in relationships and an "orderly atmosphere". On the other hand justice should be done to the professional autonomy of teachers and enough leeway ought te be given to personal initiative.

Next, certain structural arrangements should be met to facilitate mutual adaptation and communication between teaching staff in order to establish achievement-oriented cohesion.

An interesting theoretical approach to the explanation of organization teacher relationships conducive to effectiveness is sketched by Fuller et al. (1982) in their article on the "organizational context of individual efficacy". They present specific hypotheses about structural determinants of individual efficacy.

We believe that the theoretical approaches mentioned above could be used to help understand and possibly modify the organizational correlates of school-effectiveness. The concepts we have referred to, are, in their turn, specific instances of broader lines of organizational thinking such as rational management theory, the human relations approach and the political view of the internal functioning of organizations.

At the next level, we need to explore contextual conditions favorable to effective school management and organization. Here contingency theory can be used as the general line of thinking, though this does not mean that specific contingency hypotheses are readily available. We should mention here three types of contingency hypotheses. First, we should expect schools to invest relatively more energy in adaptation to the environment, and, more specifically, resource acquisition, when the environment is less certain and stable. For instance, in the Netherlands, we see at present both a decline in pupil enrolment and budget reduction. Although there is at the same time increasing pressure towards quality of school output, we should expect a trade-off in the energy schools can devote to resource acquisition and enhancement of quality of production. Probably, high pressure to accomodate to changing environmental conditions calls for different structural organizational conditions and different management-strategies in order to enhance productivity.

Secondly, school-environments, for instance school districts, can be expected to differ in the degree to which schools are urged to enhance quality and productivity. When resources for schools grow scarce, one might even expect a market mechanism to start to operate, although according to our experience, schools in fact sooner compete for pupil enrolment than for output quality.

Thirdly, we would again like to refer to a comparison between national educational systems in relation to effectivity stimulating contexts.

Here we could differentiate between educational cultures and national policy-measures that emphasize school-effectiveness to a greater or lesser degree. For instance, it might be expected that educational indicator-systems, monitored at the central level, will stimulate schools to be effective.

Table 4 summarizes our substantive hypotheses at the various levels of figure 3 and also mentions the theoretical background of each hypothesis.

Table 4: Summary of substantive hypotheses; theoretical sources

	<u>relatively high ed. achievement</u>
	<u>effective teaching</u>
	. direct instruction
educational psychology	. time-on-task
theory of learning	. opportunity to learn
	<u>favourable organizational & managerial conditions</u>
organizational missions	. shared achievement orientation
human relations approach to organizations	. consensus on principles of effective teaching
control theory	. evaluative potential
social psychology	. structural conditions enhancing individual efficacy
	. structural conditions favourable to consensus building and mission maintenance
professional bureaucracy	. favourable organic/mechanistic mixture
	<u>supportive contextual conditions</u>
contingency theory	. relatively stable environment
political economy of public organizations	. actively stimulating policy sector measures
	. achievment oriented ed. culture

Conclusion: Some implications for school-effectiveness research

In this article we have tried to use organizational theory more explicitly in the analysis and interpretation of research findings on school-effectiveness. We realize that a lot of work still has to be done before certain organizational hypotheses can be tested empirically and be included in the main stream of school-effectiveness studies. A first step towards achieving this will be the definition and application of concepts from organizational theory such as "organic/mechanistic mixture", "evaluative potential", "structural arrangements conducive to concensus building", "stable environments" etc.

Our conceptual analysis also suggests that we concentrate hypothesis construction and empirical research on cross-level relationships within a multi-level framework of school-effectiveness. Thirdly, we feel that context should be more explicitly considered in future school-effectiveness research. Finally, we recommend more frequent international comparisons of organizational correlates of school-effectiveness.

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